

Response to Office Action Dated 03/03/2006
U.S. Patent Application Serial No. 10/812,856

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

{Claim 1}. (withdrawn): A method of fabricating carbon nanotube bundles which first are vacuum-sealed in a quartz tube. The above described assembly is then heated to the temperature range of 900°C to 1,300°C, which makes the assembled bundle red-hot and soft. When the assembly is quenched in air, the quartz tube is simultaneously or sequentially extended in the longitudinal direction of the carbon nanotube sample. Thereby, the cross-section of the carbon nanotube bundle is reduced to 50 – 100 nm, and the cross-section of the surrounding quartz tube is reduced to 0.1 mm in diameter or less.

{Claim 2}. (currently amended): ~~The resultant, fabricated, string-like product is a~~ An assembly composite material comprising of carbon nanotubes nanotube bundles sealed in an axially extended quartz protective sheath, which sheath is chemically stable and prevents reaction of the bundles with acid or other toxic substances, which encompasses the carbon nanotube bundles due to the extension, or drawing process, that occurs while the assembly is thermally quenched.

{Claim 3}. (currently amended): ~~The carbon nanotube bundles assembly of Claim 2, wherein the bundles consist of about 100 to 1000 carbon nanotubes as a result of heat treatment and longitudinal expansion, so that and the carbon nanotube bundles diameter diameters arc is reduced to 1 micron or less, the bundles having a critical tension of up to about 10 tons wt/mm².~~

{Claim 4}. (currently amended): ~~The assembly of Claim 2, wherein the carbon nanotubes nanotube bundles are sealed in a vacuum and expanded longitudinally while they are quenched until and the quartz sheath O.D. is reduced to less than about 0.1 mm or less, whereas wherein the carbon nanotube bundles in Claim 2 have the a cross-section of about~~

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50 to 100 nm-70 nm. and the quartz sheath is a heat treated, quenched cladding that is heat resistant up to about 900 C°.